



Era Aviation, Inc.

# Era Aviation Services

## PROCUREMENT SPECIFICATION

PROCUREMENT SPECIFICATION NO. 4023

HOSE ASSEMBLY - MEDIUM PRESSURE  
FUEL, CONVOLUTED TFE (TEFLON)

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IR	11/03/95	ALL	Initial Release	<i>J. Marwill</i> 11/03/95
A	06/07/97	B & 3	To add -8(H) hose size code.	<i>J. Marwill</i> 06/07/97
B	07/09/98	B & 3	Added alternate vendor P/Ns for fitting code N.	<i>J. Marwill</i> 07/09/98
C	06/09/00	B, C, & 1 thru 6.	Revised notes 1, 2, 5, 7, 8, and 10 to clarify marking hoses. Added operating pres. to Table I. Renumbered some notes for consistency. Added Page C.	<i>J. Marwill</i> 06/09/00

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## 1 INTRODUCTION

### 1.1 Purpose

This process specification provides information for creating an Era Aviation part number for a flexible hose assembly which can be called out on the next assembly "using" drawing.

### 1.2 Hose Assembly Application

The hose assembly defined by this specification is a crash resistant convoluted flexible tetrafluoroethylene (TFE) Teflon type hose reinforced with stainless steel wire braid and permanently attached end fittings. The hose assemblies are suitable for use in aircraft medium pressure fuel and engine oil systems where small bend radii are required. See Section 3, note 2 for applicable limitations. For applications where standard bend radii are acceptable, it is preferred to use Hose Process Specifications PS4020 and PS4025.

## 2 HOSE ASSEMBLY PART NUMBERS

A hose assembly part number can be created or deciphered by examination of the "part no. code" and "example of hose assembly part no." sections shown in Sections 2.1 and 2.2, respectively. Use "Table I" and "Table II" in Sections 2.3 and 2.4, respectively, to code the hose size and end fitting style in the part number. The end fitting style refers to whether the fitting is straight, 45° angle, 90° angle 37° flared nut, or flanged and the fitting material (stainless steel or aluminum).

The notes in Section 3 provide specific information used in the specification of the hose assemblies.

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## 2.1 Part No. Code:

PS4023-H 000 D F 28 4 A

Basic Number \_\_\_\_\_

Hose Size Code \_\_\_\_\_  
(Table I)

$\triangle 9$  Degree Rotation \_\_\_\_\_  
(If none, use 000)

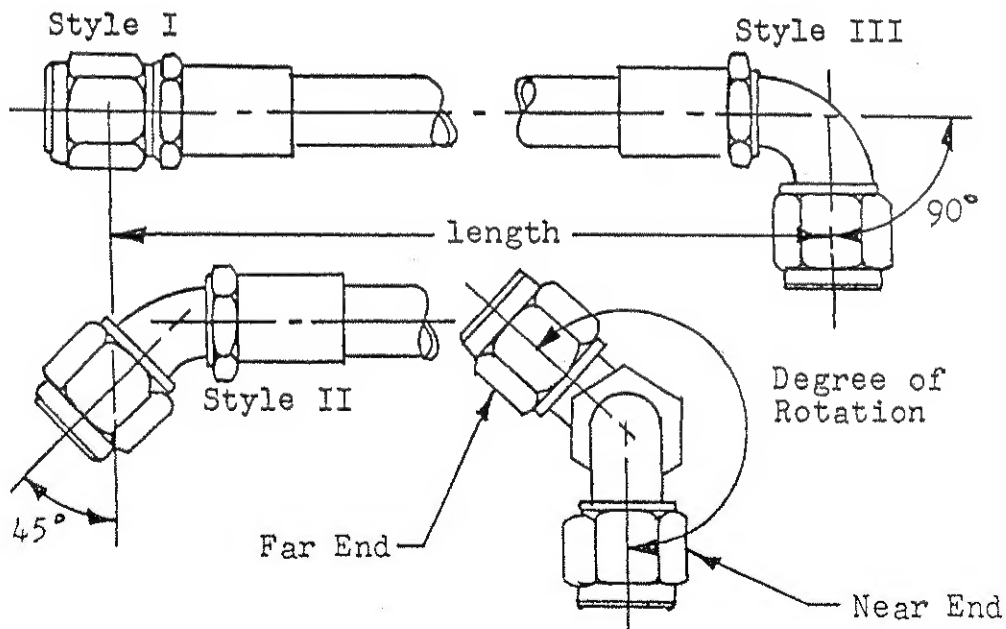
Left End Fitting Code (Table II) \_\_\_\_\_

\_\_\_\_\_ Add "A" for hose with abrasion cover.  
Add "F" for firesleeve.  
Leave blank if sleeving is not required.  $\triangle 10$

$\triangle 4$  Fractional Length coded in 1/8 inch increments

\_\_\_\_\_ Length in inches

\_\_\_\_\_ Right end fitting code (Table II)



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## 2.2 Example Of Hose Assembly Part No:

PS4023-H000AC284A - Hose Assembly, .50 Inch Diameter  
Nominal Hose Size, 0° Rotation, Straight Steel Flared  
Fitting on the Left End of the Hose, 90° Steel Flared  
Fitting on the Right End of the Hose, 28 1/2 Inches Long  
with Hose Abrasion Cover

## 2.3 Hose Size Code

Use Table I to specify the code letter for the desired nominal hose size (inside diameter). Dash numbers shown are equivalent tubing outside diameter in 1/16" increments. The normal maximum operating pressure is also shown.

Hose Size	-8	-10	-12	-16	-20
Code Letter	H	J	K	M	N
Max Operating Pres. (psig)	1000	1000	1000	1000	1000

TABLE I

## 2.4 End Fitting Style Code

Use this table to specify the fitting style and fitting material of each metal end fitting.

Fitting Code	Fitting Spec. No. <sup>3</sup> or Part No.	Fitting Style <sup>6</sup>	Fitting Material <sup>6</sup>
A	AE25720__D	I (37° Flared)	Aluminum
D	AE24850__	I (37° Flared)	CRES Steel
E	AE25093__	II (37° Flared)	CRES Steel
F	AE25092__	III (37° Flared)	CRES Steel
N	AE36193__ & 9644-__ or AE28696__ or AE25655__	Straight Flange	Aluminum
S	AE26118__ & 9644-__	45° Flange	CRES Steel
T	AE25027	90° Flange	CRES Steel

TABLE II

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## 3 NOTES

1. Hose assemblies defined by this specification are intended to conform to SAE Specification AS1227 (low pressure convoluted TFE-Teflon). Abrasion shield, if required, shall be as defined in Note 10.
2. These hose assemblies are intended for use with MIL-T-5624 fuel and MIL-L-23699 lubricating oil with a fluid or ambient temperature operating range of -65°F to +275°F. See Table I for normal maximum operating pressures. See vendor data for minimum bend radius and other limitations.



37° flared end fittings shall mate with an MS33656 fitting design. Threads shall conform to MIL-S-8879. See Page 2 for style configuration.



Fractional length hoses shall be specified in the following increments only:

- a. Under 30 inches long = 1/8 inch increments only
- b. 30 inches long and over = 1/4 inch increments only

5. Hose assemblies shall be fabricated in accordance with Era Process Specification PS4021, Type III. Hose assemblies shall be certifiable to TSO-C53a, Type A (250°F maximum temperature without firesleeve) or TSO-C53a, Type C (300°F maximum temperature with firesleeve), whichever is applicable. **NOTE:** TSO-C53a certification is not required by this specification.



All -10, -12, -16, and -20 size hose fittings shall be made of aluminum to meet the requirements of FAR 29.952(c) unless the installation design dictates otherwise. This decision shall be made by the design engineer at the time the hose assembly part number is created. Flanged fittings are only available in -8 through -48 sizes.

7. Identify each hose assembly per PS4021, Section 6.



Two parts are required for each hose assembly.

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Angular orientation between the elbows is expressed in three digits. The angle is measured in degrees counterclockwise from centerline of the nearest fitting when positioned at 6 o'clock to the centerline of the other fitting as shown in the figure. If the desired orientation is zero degrees, specify "000".



A letter at the end of the part number designates the type of protective outer cover on the hose as follows:

" " = No code is an AE641 hose with stainless steel wire braid on the outside without any cover

"A" = AE541 hose with blue braided polyester chafeguard

"F" = AE441 hose with an integral silicone rubber firesleeve which is fire resistant per AS1055, Class A and can meet TSO C53a, Type C "Fire Resistant" requirements.

"B" = AE105 clear Teflon abrasion sleeve



This hose assembly shall have an integral braided polyester cover over the wire braided hose. The purpose of this cover is to provide abrasion resistance protection to the hose assembly.



This is the vendor's part number of a specific component of the hose assembly. A letter shall be placed at the end of the part number to designate the size. Refer to Table I on Page 3 to determine the correct code letter for each size.







13. Do not mix different hose vendor component parts in the same hose assembly.



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#### 4 APPROVED PROCUREMENT SOURCES

Hose assemblies and component parts may be purchased only from the following Era Aviation engineering approved sources or their agents:

COMPARTMENT PART	APPROVED VENDORS & CORRESPONDING PART NUMBERS		
	Aeroquip Corp. Jackson, MI 		
Hose W/O Sleeve, or	AE641__		
Hose with Abrasion Cover  or	AE541__		
Hose with Firesleeve 	AE441__		
End Fittings 	See Table II Fitting Part No.		
Socket 	AE24204		
Abrasion Sleeve 	AE105__		

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